



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,390	09/08/2000	Arthur J. Coury	FTI 126	3456

23579 7590 07/02/2003

PATREA L. PABST
HOLLAND & KNIGHT LLP
SUITE 2000, ONE ATLANTIC CENTER
1201 WEST PEACHTREE STREET, N.E.
ATLANTA, GA 30309-3400

EXAMINER

WANG, SHENGJUN

ART UNIT	PAPER NUMBER
----------	--------------

1617

DATE MAILED: 07/02/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,390

Applicant(s)

COURY ET AL.

Examiner

Shengjun Wang

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 7, 2003 has been entered.

Claim Objection

2. Claims 47-49 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 47 recites a macromer. The macromer appears to have only one polymerizable group, wherein the macromer in claim 38 has at least two polymerizable groups. Therefore the macromer defined in claim 47 is out of the scope of claim 38.

Claim Rejections 35 U.S.C. 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 47-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1617

5. Claim 47 recite a macromer depending from claim 38, however, fails to clearly define the two polymerizable groups in the macromer. The claim is indefinite as to how the two polymerizable groups attached to the macromer.

Claim Rejections 35 U.S.C. 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zajaczowski (US 5,726,250) in view of Hubbell (US 5,410,016, IDS).

Zajaczowski teaches a crosslinked water-absorbent copolymers useful for wound dressing. The copolymer is made of macromers and monomers, wherein the macromer has a hydrophilic region, which may be polyethylene glycol, and acrylate terminal group, with molecular weight about 300-50,000, and preferably 300 to 3000; the monomers may be hydrophilic, such as hydroxyethyl acrylate, vinyl pyrrolidone, diacetone acrylamide, or hydrophobic, such as butyl acrylate. The amount of macromer may up to 35 % by weight. The crosslinking may be realized by employing polyfunctional macromers or monomers. See, particularly, the abstract, columns 4-5, column 6, lines 52-62, the example in columns 9-12 and the claims. When used as wound dressing composition, the copolymer may be incorporated with therapeutical agents as served as sustained release device. See, particularly, column 8, line 48-63. As to the employment of the particularly moiety defined in claims 47, note, acrylate and lactate

Art Unit: 1617

are known to be useful in the macromer, therefore, employ the ester of the two compounds herein is obvious.

Zajaczhowski does not teach expressly to employ a macromers having at least two polymerizable groups, or the particular, macromers.

However, Hubbell et al. teach macromers used in biodegradable hydrogel. The macromer has molecular weight about 400 to 30,000, and has polyethylene glycol moiety and alpha hydroxyl acid moiety, such as lactic acid. The macromer has at least two terminal acrylate moieties. The hydrogel obtained from the macromer is particularly useful for wound dressing, control release of therapeutical agents.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to employ the macromers as disclosed by Hubbell et al. to make the crosslinked water-absorbent copolymers.

A person of ordinary skill in the art would have been motivated to employ the macromers as disclosed by Hubbell et al. to make the crosslinked water-absorbent copolymers because the macromer has more than one polymerizable groups, meet the requirement for internal crosslinking as defined by Zajaczhowski. Further, the macromer has similar molecular weight and components to those employed by Zajaczhowski, and is particularly known to be useful in forming materials suitable for wound dressing and controlled release.

8. Claims 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zajaczkowski (US 5,726,250) in view Jarrett et al. (WO 98/12243, IDS).

Zajaczhowski teaches a crosslinked water-absorbent copolymers useful for wound dressing. The copolymer is made of macromers and monomers, wherein the macromer has a

Art Unit: 1617

hydrophilic region, which may be polyethylene glycol, and acrylate terminal, with molecular weight about 300-50,000, and preferably 300 to 3000; the monomers may be hydrophilic, such as hydroxyethyl acrylate, vinyl pyrrolidone, diacetone acrylamide, or hydrophobic, such as butyl acrylate. The amount of macromer may up to 35 % by weight. The crosslinking may be realized by employing polyfunctional macromers or monomers. See, particularly, the abstract, columns 4-5, column 6, lines 52-62, the example in columns 9-12 and the claims. When used as wound dressing composition, the copolymer may be incorporated with therapeutical agents as served as sustained release device. See, particularly, column 8, line 48-63.

Zajaczhowski does not teach expressly to employ a macromers having at least two polymerizable groups, or the particular, macromers.

However, Jarrett et al. teaches a macromer containing polyethylene glycol moiety and carbonate moiety (e.g., trimethylene carbonate), and/or lactate moiety, and with more than one terminal acrylate groups. The macromer is particularly useful for forming hydrogel useful for adhere or seal tissues together (wound dressing), or for controlled delivery of therapeutical agent. See, particularly, the abstract, pages 23-24, and the claims.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to employ the macromers as disclosed by Jarrett et al. to make the crosslinked water-absorbent copolymers.

A person of ordinary skill in the art would have been motivated to employ the macromers as disclosed by Jarrett et al. to make the crosslinked water-absorbent copolymers because the macromer has more than one polymerizable groups, meet the requirement for internal crosslinking as defined by Zajaczhowski. Further, the macromer has similar molecular weight

Art Unit: 1617


and components to those employed by Zajaczhowski, and is particularly known to be useful in forming materials suitable for wound dressing and controlled release. As to the employment of the particularly moiety defined in claims 47, note, acrylate and lactate are known to be useful in the macromer, therefore, employ the ester of the two compounds herein is obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang, Ph.D. whose telephone number is (703) 308-4554. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Patent Examiner

 **SHENGJUN WANG**
PATENT EXAMINER

Shengjun Wang

June 26, 2003